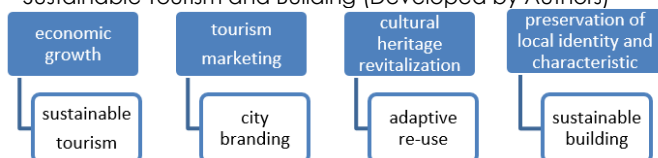# Revitalization and Adaptive Re-use in Cappadocia: A Taxonomy of Creative Design Solutions for Uçhisar Boutique Hotels

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A B S T R A C T

The "architecture without architect" in Cappadocia has always been fairy due to its volcanic stone formations and transforming silhouettes. In 1973, French architect Jack Avizou highlighted the essence of cave houses as vernacular building types and their potentials for local tourism beyond conventional notions of architectural heritage. Upon completing restoration of cave houses in Uçhisar and transforming them to boutique hotels, he was nominated for Aga Khan Award for Architecture in 2010. On the other hand, Aga Khan Award winner Turkish architect Turgut Cansever, had also been advising for Argos Hotel project in Uçhisar since 1996. He gave importance to the concept of "protection" and preserved vernacular identity and characteristics despite the demands of tourism sector. This paper aims to explore Avizou and Cansever's design solutions in Uçhisar's local context. Building / interior design elements and spatial relations in interiors will be analyzed with cluster analysis and ranked according to levels of novelty. Hence, achievement of creativity through transformation, combination and variation of original designs, will be displayed. Understanding Avizou's and Cansever's visions on revitalization and adaptive re-use is substantial since, their creativity shall be a source of inspiration for future sustainable tourism and building practices in local and global context.

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1. Introduction

For economic growth, especially during times of financial crises, tourism is regarded as an accelerator. The UN World Tourism Organization (UNWTO) research demonstrated that interest in the environment, culture and heritage is a primary motivation for more than 50% of travel, and is consistently growing as a market sector (Brooks, 2011). According to the Council of Europe (Faro Convention, 2005), cultural heritage is valuable in itself and for the 'contribution it can make to other policies'. Many countries have invested large sums in the restoration of various historical sites with the aim of maintaining jobs in the tourism sector and using cultural heritage as a tool to stimulate cultural and economic development in a period of economic recession (Inkei, 2011). Hence, construction industry and small and medium-size businesses are being preserved besides historic monuments and sites. Beyond economy, cultural tourism has significant socio-cultural and environmental impacts on host society.

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During World Summit on Sustainable Development (WSSD – Johannesburg, 2002), it was stated that: "*The contribution that tourism can make to poverty alleviation, to conservation of the natural and cultural heritage, and to overall sustainable development can be substantial. This is especially so in developing countries, where natural resources and landscapes are still relatively untouched and where few other activities have a sustainable development potential, from an economic or environmental perspective. Furthermore, tourism has proved to be in many countries a much more sustainable development option that intensive agriculture, forestry, extractive mining or other primary activities*".

Thus, cities themselves have already become products within the economy of consumption. The identity of cities or areas have been redesigned, presented and consumed steadily. In global competition and mobility of tourism, field branding strategies are applied for increasing the cities' recognition, recalling their identities and main characteristics and developing new strategies for their consumption (Zhang and Zhao, 2009). Efficient city branding depends on the identification of main characteristics of the city including its identity, historical, cultural activities, demographic characteristics, economy, perception of the city and experiences of people etc.

Hence, cultural heritage with its overall physical, diverse and intangible components require new strategies of preservation, renovation and adaption. For preserving cultural heritage, The Council of Europe (1985) suggested use of protected goods in the light of modern living needs; adaptation of old buildings for new purposes (when possible); and harmonization of the needs for protection with the needs of modern economic, social and cultural activities. As shown in Table 1, revitalization and adaptive re-use of heritage buildings and sites are rooted in a number of disciplines including economy, sustainable tourism, tourism marketing, city branding, preservation and sustainable building. The aim of this paper is to inspect sustainable design strategies applied in revitalization of Cappadocia as a tourism center. Case study will focus on adaptive re-use of cave houses as boutique hotels.

Table 1. Theories of Revitalization and Adaptive Re-use in Sustainable Tourism and Building (Developed by Authors)

1.1 Revitalization and Adaptive Re-use of Heritage Buildings and Sites

In tourism, consumers' motivations and behaviours are increasingly characterized by a more selective choice of destination, a greater attention to the tourism experience and its quality, a greater sensitivity to the environment, vernacular culture and local people at the destinations. Hence, cultural tourism and its sustainability is possible through preservation of vernacular identity and characteristics. Applying determined place / urban identity in all areas of design (in a collective manner), is an advertising and marketing technique for place branding (Usal, 2012). Therefore, contemporary strategies and practices have been shaped around revitalization and adaptive use of heritage buildings and sites.

Vernacular architecture is a great source for architects, urban planners, and relevant service providers who are expected to develop sensitive scenarios to physical, economic, social and environmental needs. In vernacular architecture, physical characteristics of the region including the climate, tectonics and landscape blends with cultural and social values. Vernacular architecture, as a result of hundreds of years of experience, is efficient in meeting the needs of local environmental conditions and quality of life. Vernacular buildings require less energy for their construction, operation and maintenance thus, they are sensitive to the nature and their environments.

In Turkey, several architects in their projects have successfully integrated vernacular design principles that determine the sustainable identity of vernacular architecture. The architect Turgut Cansever, who later advised for Argos Boutique Hotel in Cappadocia, was awarded three times with international Aga Khan Award for his contributions to vernacular architecture along with urban and rural development policies. Cansever's projects Ahmet Ertegun House (1980), Turkish History Foundation Building (1980) and Demir Holiday Village (1992) were all found to be valuable for their sensitive approaches to economic and environmental problems. This paper includes samples from Cansever's design approach to Cappadocia as well as French architect Avizou, who was the first figure to emphasize the significance of vernacular architecture and highlight its potentials for tourism in the region.

2. Vernacular Architecture in Cappadocia

Cappadocia; was shaped 60 million years ago with lava and ashes of Erciyes, Hasandağı and Güllüdağ mountains and erosion of these soft layers rain by the wind and rain during millions of years. Throughout history, many civilizations including Assyrian trade colonies, Hittites, Persians, Romans, Anatolian Seljuks, Karamanoğulları and Ottomans have settled on this land. Traditional Cappadocia settlements were independent of strict design rules. Cave settlements were formed in centuries as a result of natural and human forces by abrasion and friction. Caves provided various functions such as sheltering, worship, defence, burial place, storage and transition tunnels. Easy digging of shelters facilitated expansions and connections with new corridors and stairs on need. People developed their defence mechanisms skilfully upon discovering the suitability of caves for hiding and defending. Therefore, cave houses scattered on the sloping terrain, have become the characteristic pattern of Cappadocian architecture. They featured rational and creative solutions, which were shaped around principles of sustainability.

The streets in Cappadocia conformed to topographical features. They were usually scaled according to dimensions which allowed animals (carrying human load) could pass. These organic streets were limited either by wood / stone cantilevered building masses, high garden or courtyard walls, depending on regional characteristics. Cappadocian settlements; could be classified in three categories including underground carved settlement, slope carved settlement and rock carved settlement. Stea and Turan (1993) termed them as carved-out spaces (lithospace) and built-out spaces (terrapace) during their investigation on placemaking and developed a model for housing patterns in Cappadocia (Table 2).

Table 2. Housing Patterns in Cappadocia (adaptation from text by Stea and Turan, 1993)

Cappadocia Housing	
Carved-out housing	*Built-out housing*
• Negative space	• Positive space
• Subtractive	• Additive
• Away from the surface	• Close to the surface
• Provides a strong defense mechanism with its depth and camouflage	• Indicates social status/ respectability of its owner in community(in terms of size and decorative elements)

Stone was the main building material of Cappadocia region, due to its volcanic land. It was soft and easily processed when it came out of the quarry, but after contact with air it became hard and very durable for building. Local people, who used to live in rock-carved

spaces at first, started applying fine stone work to architectural structures. The most glorious built-up Cappadocia houses began to emerge in 19th century with post-Tanzimat influences. Houses began growing in size and decorations appeared on facades. Ornamented mouldings, cantilevers and doors / windows converted to sculptures, appeared as authentic works of this late period. The stone called "kepez" also contained different color shades. Its porous structure provided serious insulation against heat. Its abundance, easy processing and thermal insulation has made stone workmanship a traditional construction technique in Cappadocia. In its history, a guild of 700 masters practicing in the region was noted (URL 1). Natural stone (volcanic tuff) offered unlimited possibilities, especially in terms of architecture: from small to enourmous scaled caves with a variety of curves, roughness and textures in walls. Everything was designed according to user's lifestyle and daily actions. Types of housing varied from "carved", "semi-carved-semi-masonry" and "masonry" (Binan, 1994). Main components of carved space were living spaces, kitchens, cellars, warehouses, tandoor houses, places of worship, barns and stables etc. In addition, water wells and ventilation chimneys were indispensable in the underground world. All of the rooms opened to a "hayat" surrounded by high courtyard walls.

Cappadocia houses, had not been of interest for many years and were faced with collapse and disappearance. However, with revival of tourism after 1970's, Cappadocia region started to gain importance. New functions such as hotels, pensions, restaurants, discotheques, cafes and shops etc. were given to renovated historical buildings and put into service for tourism. In 1982, The Ministry of Culture launched a rescue operation. In 1985, preservation of heritage rock was finally recognized as "World Heritage" by UNESCO (Figure 1). The vaults carved into the lava stones in these primitive settlements started to take place on touristic media and marketing mediums all over the world.

Figure 1. Göreme National Park and the Rock Sites of Cappadocia (URL 2).

3. Revitalization and Adaptive Re-use of Vernacular Houses for Tourism in Uçhisar

The best example of settlements, carved into rocks, is Uçhisar Castle and its surroundings. Uçhisar, is the highest rock in the region. The horizon to be seen 90 km to the east, leads to the assumption that it was one of the attractive points preferred for asylum by the first Christians, who fled from the Romans. Turks moved to Anatolia in the 11th century and preferred to settle in the old settlements. They also utilized Uçhisar as a protection and defence center in Seljukid, Beyliks and Ottoman Periods (Cimşit, 2007).

As a neglected historical site, Uçhisar was identified as disaster area in the 1960s and was abandoned with support of the state. On leaving, many of the villagers removed stones from their original houses and used them to build their new houses. Hence, the village was ruined by the end of the 70s. On the other hand, Club-Med Hotel (1968-2005) opened and attracted international interest, mainly of French. Within time, Uçhisar has become a favourable destination for Belgium, Italian, American and Japanese tourists as well Turks from all over the country due to its suitable weather conditions between May and October. Development of similar infrastructures and services in Uçhisar has been boosting the tourism and related sectors in recent years (Figure 2).
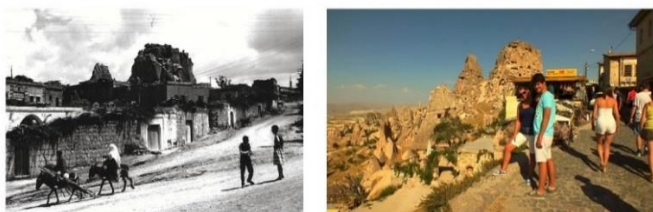
Figure 2. Revitalization of Uçhisar (URL 3).

Uçhisar is a defensive hill settlement. However, its stone and rock formation is problematic due to its softness, loose porosity and dune layers in between etc. Hence, structures in Uçhisar were built smaller compared to other regions with big cave monasteries. In addition to caves; additional rooms with flat roofs were built. They were built out of cut stone on rock carvings. These rooms, owing temperature and humidity regulations, had climatic advantages over caves (Figure 3).

Due to poverty in Uçhisar, ground floor walls were built with more modest materials such as rubble / rough stones. Cut stone was only used at upper elevations. In Uçhisar houses; rooms were arranged around a common living area (inner courtyard). Decorations were sparse. Upper floor ceilings were covered with poplar structures called 'hezen'. The wood was scarce in ornamentation since the area was lacking trees. Wood was only used for doors in courtyards and interiors.

Figure 3. Vernacular Architecture in Uçhisar (URL 4).

3.1 Les Maisons de Cappadoce

The adaptation of cave houses for contemporary use was initially introduced to Uçhisar by French architect Jack Avizou. Overwhelmed by the book called 'Architecture without Architects' (Rudofsky, 1964) and his touristic visits to Cappadocia, Avizou settled in Uçhisar in 1993. He set up a firm operating in architecture and tourism sectors. He bought 17 cave houses abandoned by villagers and converted them into boutique hotels with total 31 rooms. Avizou explained his efforts: *'Politicians were always discussing about especially on the frescoes of the old chapels. I introduced the concept of heritage and restoration in this region'* (URL 5). According to Avizou's vision; bakery ovens, wine cellars, stairs carved into rocks, terraces and inner gardens started to appear in the middle of the isolated and striking Cappadocia landscape. He was inspired by vernacular art for decoration and used it in a simple style for authentic comfort. He designed interiors with pottery, rugs and carpets. He redesigned the local Turkish primitive human settlements according to French taste and later marketed them via his tourism company (Figure 4). The project was nominated for Aga Khan Award for Architecture in 2010 for its impetus throughout the region, due to renovation of vernacular structures and revival of traditional crafts.

Figure 4. Restoration of Vernacular Housing by Avizou- for Les Maisons de Cappadoce (URL 6).

3.2. Argos in Cappadocia

Argos in Cappadocia, is a restoration project of an old neighbourhood, which earlier was removed away stone by stone and became an excavation area in 1970's. The founding partner of the Argos in Cappadocia hotel, Gökşin Ilıcalı, discovered Uçhisar in 1996 and decided to make a tourism investment through restoration. He hired Aga Khan awarded Turkish architect, Turgut Cansever for his master knowledge and former practices on vernacular architecture. During restoration, Cansever put emphasis was laid on vernacularity, respect for history and importance of the place. The stone houses, which had been removed, were traced and spaces in between were designated according to the needs of the new function (Figure 5). The new layout, with original traces, was called as "içinden köy geçen otel / the village with a reception desk" by Architect Özbay, the current coordinator of the project (URL 7).

Figure 5. Restoration of Vernacular Housing Consulted by Cansever for Argos (URL 8).

Keeping the new behind the original, respect for traditional textures and priority of local crafts, were effective strategies in the success of final product. The project took a long time due to several stages. Masters of traditional crafts were sought to train new craftsmen. The initial tourism company owning Argos was purchased in 2014 by a big Hotel Investments Group. With ongoing restoration work, Argos in Cappadocia has received several global and national awards (Table 3).

Table 3. Global and National Awards of Argos (Developed by Authors based on info at URL 9).

- Excellence (Trip Advisor, 2010)
- World's Newest and Best 45 Hotels (Travel+Leisure , 2010)
- "The most environmentally friendly projects in the world" (Conde Nast, 2010)
- "The Most romantic hotels in the world" (Conde Nast, 2011)
- 'Silver Magellan' at "The Most Luxury Hotel and Resort in the World" (Travel Weekly, 2011) "Boutique and Private Meeting Facilities" (1st Congress, Meeting and Event Awards - ACE of M.I.C.E, 2012)
- "Turkey's Best Boutique Hotel Investment" (Turkey's Most Successful Tourism Investment Survey, 2013)
- "Top 100 Hotels in the World " (Fodor's, 2014)
- "Best Hotels in the World" Categories (Travellers Choice, 2015)
- '5 Stars' at 'Best Hotel' and 'Sustainable Hotel' Categories (International Hotel Awards, 2015)
- 'Global First' at "The Most Beautiful Historic Luxury Hotel' Category (World Luxury Hotel Awards, 2016).

4. Methodology and Case Study

This paper focuses on utilization of vernacular building / interior design elements for adaptive re-use of cavehouses as boutique hotels. Case studies will include two awarded projects: Les Maisons de Cappadoce and Argos in Cappadocia (Table 4). First of all, images of selected elements will be classified with cluster analysis. Indeed, the concept of classification is noted as the building block for most of the cognitive capabilities human possess (Gagne, 1985). With classification, one can understand interrelationships of similar things together, based on a set of criteria or characteristics. Classification by architectural elements (Purini, 1968), allows categorization of large databases of building elements into semantic categories such as; certain historic periods, styles, cultural influences and functions

After classification of building / interior design elements, their original and new uses will be compared according to levels of novelty. The model used in the study is 'taxonomy of creative design' by Nilsson (2011), which offers a progression from imitation to original creation (Figure 6). It helps to organize creative works into an inclusive, unifying landscape that serves as an analytical tool for evaluating creative work, and also as a methical approach for developing creative skills. Today, Avizou's and Cansever's visions on adaptive re-use of cave houses are still inspiring current boutique hotel design projects. Therefore, this research intends to display the novelty of their design solutions and display their contributions to sustainable development of local economy, tourism and building sectors.
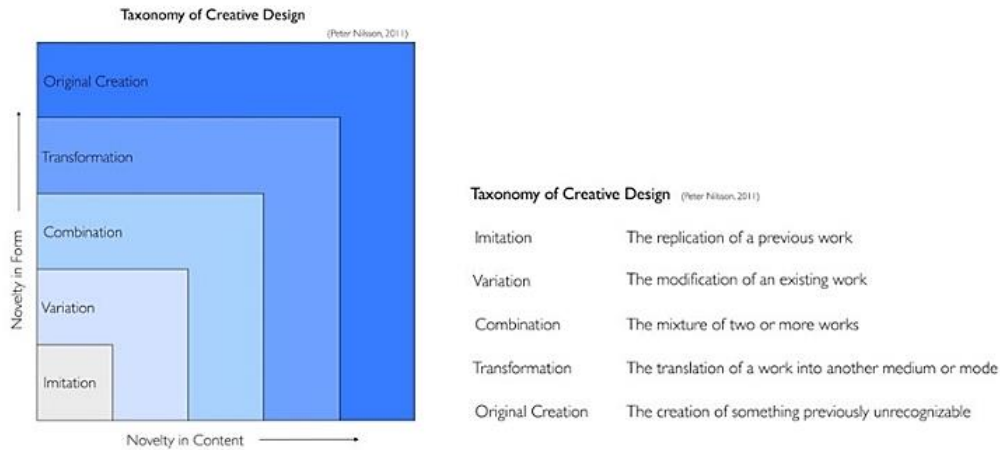
Figure 6. Taxonomy of Creative Design (URL 10).

4.1 Findings

The common point for both projects is their respect and emphasis for preserving the rich heritage of vernacular culture. In Cappadocia, adaptive re-use of vernacular housing as boutique hotels has brought many economic benefits and improved quality of life for residents. Table 4, displays adaptive re-use scenarios of Les Maisons de Cappadoce and Argos in timeline.

Table 4. Adaptive Re-use Scenarios (Developed by Authors based on info at URL 11).

Property Name	Original Use	New Use	The benefit
Les Maisons de Cappadoce (1994-2010)	Cave house Stables	Boutique Hotel	Initialization of the concept of heritage and restoration in Cappadocia
Argos Stage 1 (1996-2002) Mansion 'ManastırKonak'	Monastery church from 4th-5th century Caravanserai or oil mill	Bezirhane	Cultural and social events, (concerts, exhibitions and theater performances, festive receptions, media conferences, lectures, symposia, fashion shows etc.
Argos Stage 2 (2001-2006) Mansion 'Tüneli Konak'	Roman water tunnel with 5.5 km length	Public circulation tunnel and suite room	The first suite room with a pool inside
Argos Stage 3 (2005-2009) Mansion 'Vasil Konak'	Residential	Boutique Hotel	Open to public Provides street-courtyard-panorama connections
Argos Stage 4 (2007-2009) Mansion 'Gemil Konak'	Residential	Boutique Hotel	Suite rooms with common facilities: restaurant, kitchen, bar, lounge / lobby.
Argos Stage 5 (2010-2011) Mansion 'White Konak'	Residential	Boutique Hotel	Suite rooms
Argos Stage 6 (2012-2013) Mansion 'Tıraz Konak'	Residential	Boutique Hotel	Suite rooms
Argos Stage 7 (2014-16) Mansion 'Kavak Konak'	Residential	Boutique Hotel	Suite room with "şırahane" (traditional kitchen) and "peynir odası" (cold storage)
Argos Stage 8 (2015-2017) Personnel Building	Residential	Personnel Building	A large cafeteria and kitchen in basement, and dressing and relaxation rooms on upper floors for hotel staff
Argos Stage 9 (2015-2017) Museum Saloon	Caravanserai or oil mill Staples	Multi-use hall Boutique Hotel	Exhibition of historic mill beds and mule circulation
Ladies' house (2015-2015)	Two heritage school buildings from Republican Period	A restaurant and shop for jewelry and food products	Handmade by Uçhisar ladies.

Following tables 5, 6, 7, 8 and 9 are *taxonomies of adaptive re-use design guidelines according to levels of novelty* in *'Fitting to Topography, Spatial Layout, Vernacular Construction Technics and Material, Interior Furnishing and Ethnographic Elements'*.

Table 5. Taxonomy of Design Guideline 'Fitting to Topography' according to Levels of Novelty.
(Les Maisons de Cappadoce; URL 12, Argos in Cappadocia; URL 13)

Original Architectural / Interior Design		Transformation/ Combination/ Variation		Imitation
Les Maisons de Cappadoce by Avizou				
Fitting to topography	Building types			
	Vertical circulation elements (staircases, ramps, etc.)			
Argos in Cappadocia consulted by Cansever				
Fitting to topography	Building types			
	Vertical circulation elements (staircases, ramps, etc.)			

Table 5, displays designers' levels of novelty in designing *'Fitting to Topography'* criteria.

- Avizou's project Les Maison Cappadoce, is located on the outskirts of Uçhisar. Due to its location, exterior space use is focused on small gardens and balconies. On the other hand, Argos in Cappadocia, consulted by Cansever, is located on steep hills. Hence, terrace use is varying according to different functions: cafes, restaurants, cultivation activities.
- In both projects, emphasis was laid on use of local materials and building techniques. For local people, new job opportunities were created in the building sector. Employment of local stone masons and carpenters, enabled preservation of local craft skills in the region. Many skillful architects, interior designers, engineers and construction man were employed on construction sites.

Therefore, both projects have made remarkable contributions to sustainable economic growth. Additionally, young architects and interns were accepted to practice in Argos restoration works. Besides support for architectural education, new and original knowledge was introduced to architectural history and theory through findings on heritage sites.
- The stairs in inner courtyards are out of local materials. Facade openings and entrances under stairs provide relationship between middle courtyards and surrounding living spaces. The original function of courtyards for circulation has been preserved.

Table 6. Taxonomy of Design Guideline 'Spatial Layout' according to Levels of Novelty.
(Les Maisons de Cappadoce; URL 12, Argos in Cappadocia; URL 13)

Original Architectural / Interior Design		Transformation/ Combination/ Variation	Imitation
Les Maison Cappadocia by Avizou			
Spatial Layout	Organization of interior spaces		
	Inner Courtyard		
	Terrace with panorama		
	Water element		
	Shading Element		
	Facade ornamentation		
Argos in Cappadocia consulted by Cansever			
Spatial Layout	Organization of interior spaces		
	Inner Courtyard		

	Terrace with Panorama			
	Water Element			
	Shading Element			
	Facade Element			

Table 6, displays designers' levels of novelty in designing '*Spatial Layout*' criteria.

- In both projects, according to adaptive re-use for boutique hotels; spatial organizations were modified. In Les Maison Cappadoce, Avizou preserved the spatial integrity of houses with inner platforms and flow of volumes in between rooms. When new divisions were required, he proposed furniture islands or groupings. However in Argos, in line with luxury suite room concept, houses were divided into smaller parts. Original volumetric transitions were lost in most room designs.
- In traditional Cappadocia houses, inner courtyards were paved with stones. Originally, they were the service places, where food was prepared and cooked, routines such as laundry was done in daytime and where people cooled themselves down during hot summer nights. In both adaptive re-use projects, inner courtyards are covered with greenery for recreation and cafe restaurant facilities in line with tourists' interests.

- In Argos, most stone covered terraces have been transformed to green terraces for panorama viewing. They are furnished with seating groups directed towards panorama. In Les Maisons de Cappadoce, terraces are mostly left as stone pavement. In both projects, decorative water elements and small size stone pools with ornamental carvings, are placed in terraces and inner courtyards.
- In terraces of Argos, the tradition of viniculture has been revitalized as a part of gourmet tourism. Arranged in platforms, several terraces have been planted with fruit trees and organic vegetables. Serving local wines in its cafes and restaurants, Argos in Cappadocia, was chosen to be one of the best wine resorts in the world. This helped revival of cultivation culture and economy of these fertile lands. Currently, local wine producers export their high quality wines to local and global markets. Several wine tasting and selling shops, which create new job opportunities for local people, have been opened.
- In both projects, during restoration practices, original stone relief motifs were preserved on building facades.

Table 7. Taxonomy of Design Guideline 'Vernacular Construction Technics and Materials' according to Levels of Novelty. (Les Maisons de Cappadoce; URL 12, Argos in Cappadocia; URL 13)
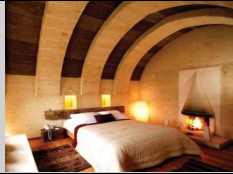
Original Architectural / Interior Design		Transformation/ Combination/ Variation	Imitation
Les Maisons de Cappadoce by Avizou			
Vernacular Construction Technics and Materials	Wall types & coverings		
	Facade openings (Doorways & windows)		
	Ceiling structures		
Argos in Cappadocia consulted by Cansever			
Vernacular Construction Technics and Materials	Wall Types & Coverings		
	Openings (Doorways & Windows)		
	Ceiling structures		

Table 7, displays levels of novelty in '*Vernacular Construction Technics and Materials*' criteria.

- In both projects, original stone arches and wooden-beamed ceilings in rooms have been preserved. Additionally, rooms have been supported with ribbed vaults on locations where the rock is humid and non-durable.

- In bathrooms, travertine is preferred instead of tiles or ceramics. Argos in Cappadocia has some indoor pools (in few suites), which did not exist in vernacular architecture. These pools cause moisture and odor inside the rooms due to inadequate ventilation

Table 8. Taxonomy of Design Guideline 'Interior Furnishing' according to Levels of Novelty. (Les Maisons de Cappadoce; URL 12, Argos in Cappadocia; URL 13)
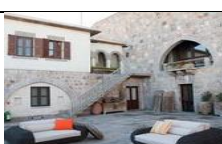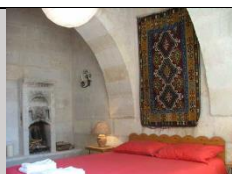
Original Architectural / Interior Design		Transformation/ Combination/ Variation		Imitation
Les Maison Cappadocia by Avizou				
Interior furnishing	Level difference			
	Niches for display			
	Wood furniture			
	Stone furniture			
	Seating inside			
	Fire place			
Argos in Cappadocia consulted by Cansever				
Interior Furnishing	Level difference			
	Niches for display			
	Wood furniture			
	Seating inside			
	Fire place			
Original Architectural / Interior Design		Transformation/ Combination/ Variation		Imitation

Table 8, displays designers' levels of novelty in designing 'Interior Furnishing' criteria.

- In both adaptive re-use projects, room interiors are furnished in a simple style. Modern furnishing is combined in harmony with local furniture, made out of cedar.
- Niches in interiors are used according to their original functions as display and storage areas.

- Fireplaces, which in the past were used for heating interiors, have been preserved in their original forms. Due to provision of modern central heating systems, most fireplaces have simply become decorative elements. Only few can still be used upon request of hotel guests.

Table 9. Taxonomy of Design Guideline 'Ethnographia' according to Levels of Novelty.
(Les Maisons de Cappadoce; URL 12, Argos in Cappadocia; URL 13)

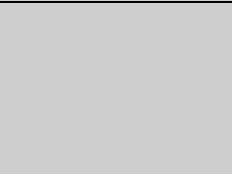| Original Architectural / Interior Design		Transformation/ Combination/ Variation		Imitation
Les Maison Cappadocia by Avizou				
Ethnographia	Carpet			
	Antique houseware &daily items			
	Lighting			
Argos in Cappadocia consulted by Cansever				
Ethnographia	Carpet			
	Antique houseware & daily items			
	Lighting			

Table 9, displays designers' level of novelty in 'Ethnographia' critera.

- In Les Maison Cappadoce, Avizou maintained use of ceramic pots in daily functions. In Argos, original ceramic pots are being exhibited in wall niches as if in a museum.

- Traditional weaving rugs, which were used to cover stone floors in the past, are being exhibited on the walls, over beds and sofas as decorative elements.
- Interiors are lighted mostly by wall mounted chandelier or hidden lighting fixtures. In general, interiors are dimmed to preserve the cave ambiance.

5. Conclusion

The two adaptive re-use projects introduced in this paper, display creative design solutions while preserving the vernacular identity and characteristics. Classification of spatial elements and relations, helped further analysis of both projects according to levels of novelty that range from original and imitation. Within this taxonomy, the two architects' design solutions mostly revealed transformation, combination and variation of vernacular design guidelines such as: 'fitting to topography, spatial layout, vernacular construction technics and material, interior furnishing and ethnographic elements'. The respect for originality has dominated both projects. They displayed few imitated design solutions, which may have been added later by other decision makers than the master architects themselves.

It is also important to highlight the coherency of sustainable building solutions between implementation phases and after-use scenarios of both projects. Use of local material and craftsmanship, training of stone masons, carpenters and other construction workers, engagement of young architects and intern students in the building and restoration process have provided many job opportunities in poor village of Uçhisar. The economic development, which initiated with construction work, has been further sustained through the business model of boutique hotels. Vernacular lifestyle has also been marketed according to the requirements of tourism sector. Alternative experience-based activities have been proposed such as; tasting wine in platform terraces, eating and drinking in cafes and restaurants of Argos, walking tours in between fairy chimneys under moonlight, meeting opportunities in the restored oil mill 'Bezirhane', entertaining in music, well-being and gourmet themed festival Cappadox, and shopping handmade local products. With increasing number of such creative design solutions, which have all been inspired by vernacular architecture, revitalization and adaptive re-use in Cappadocia have generated a sustainable business model embracing local economy, tourism and building sectors.

Conflict of interests

The Authors declare no conflict of interest.

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